

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

LISTING OF CLAIMS:

1. (Currently Amended) Transparent gas barrier packaging laminate having a required bending stiffness for packaging of liquid foods and drinks by a high speed, continuous process, comprising:
 - outside layers of heat-sealable olefin polymer[.];
 - a first gas barrier coated carrier layer including a first gas barrier layer of SiOx[,] coated onto a first polymer carrier layer; and
 - a second gas barrier coated carrier layer including a second gas barrier layer of SiOx[,] coated onto a second polymer carrier layer, wherein; and
 - an intermediate polymer layer of high stiffness and higher thickness relative to each of the surrounding layers is laminated between the two first and second gas barrier coated carrier layers, the intermediate polymer layer having a higher stiffness and a higher thickness relative to each of the first and second gas barrier coated carrier layers,
 - such that the wherein a inherent stiffness of each of the first and second polymer carrier layers interact interacts with the inherent stiffness as well as and the higher thickness of the intermediate polymer layer by a so-called an I-beam or sandwich effect in order to provide the required bending stiffness, thus rendering the packaging laminate suitable for packaging of liquid foods and drinks by a high speed, continuous process.

2. (Currently Amended) Transparent gas barrier packaging laminate according to claim 1, wherein the thickness of the intermediate polymer layer constitutes from 30 to 55%, preferably from 35 to 50%, of the a total thickness of the packaging laminate.

3. (Currently Amended) Transparent gas barrier packaging laminate according to claim 1, wherein ~~the a thickness of one of the first polymer carrier layer and the second polymer carrier layer constitutes from 5 to 20%, preferably from 5 to 15%, of the a total thickness of the packaging laminate.~~

4. (Currently Amended) Transparent gas barrier packaging laminate according to claim 1, wherein ~~the first or second~~ polymer carrier layer is a film of oriented polyester or polyamide.

5. (Currently Amended) Transparent gas barrier packaging laminate according to claim 4, wherein ~~the oriented polymer carrier layer is a film of a polymer polyester or polyamide is selected from mono- or biaxially oriented polyethyleneterephthalate (PET), mono- or biaxially oriented polyethylenenaphthalene (PEN) and mono- or biaxially oriented polyamide (PA).~~

6. (Currently Amended) Transparent gas barrier packaging laminate according to claim 1, wherein ~~the polymer of the intermediate polymer layer is a polymer selected from high density polyethylene or polypropylene.~~

7. (Currently Amended) Transparent gas barrier packaging laminate according to claim 1, wherein ~~the polymer of the intermediate polymer layer is an olefine polymer and the polymer of the first and second polymer carrier layer is an oriented polyester or polyamide.~~

8. (Currently Amended) Transparent gas barrier packaging laminate according to claim 1, wherein the SiO_x gas barrier layers of the first and second gas barrier coated carrier layers are positioned in the laminate such that they are facing towards each other.

9. (Currently Amended) Transparent gas barrier packaging laminate according to claim 1, wherein the SiO_x-layer is deposited by PECVD technique, wherein x=1.7 to 2.0, at a thickness of 50 to 500 Å, ~~preferably 80 to 300 Å~~.

10. (Currently Amended) Transparent gas barrier packaging laminate according to claim 1, wherein the a thickness of each of the first polymer carrier layer and the second polymer carrier layer is from 7 to 30 µm, ~~preferably from 8 to 20 µm, more preferably from 8 to 15 µm~~.

11. (Original) Transparent gas barrier packaging laminate according to claim 1, wherein the first polymer carrier layer and the second polymer carrier layer have the same thickness.

12. (Currently Amended) Transparent gas barrier packaging laminate according to claim 1, wherein the a thickness of the intermediate polymer layer is from 40 to 80 µm, ~~more preferably from 40 to 60 µm, most preferably from 40 to 55 µm~~.

13. (Currently Amended) Transparent gas barrier packaging laminate according to claim 1, wherein the a total thickness of the packaging laminate is from 100 to 180 µm, ~~preferably from 110 to 140 µm~~.

14. (Currently Amended) Transparent gas barrier packaging laminate according to claim 1, wherein ~~the a~~ thickness of the intermediate polymer layer is from 40 to 60 μm , ~~the a~~ thickness of each of the first polymer carrier layer and the second polymer carrier layer is from 8 to 15 μm , ~~that the a~~ thickness of the outside layers of heat-sealable olefin polymer is from 10 to 25 μm and from 18 to 30 μm , respectively, and ~~that the a~~ total thickness of the packaging laminate is from 110 to 140 μm .

15. (Currently Amended) Transparent gas barrier packaging laminate according to claim 1 14, wherein the thickness of the intermediate polymer layer is from 40 to 50 μm [,] and the thickness of each of the first polymer carrier layer and the second polymer carrier layer is from 12 to 15 μm and ~~that the thickness of the outside layers of heat-sealable olefin polymer is from 10 to 25 μm and from 18 to 30 μm , respectively, and that the total thickness of the packaging laminate is from 110 to 140 μm .~~

16. (Currently Amended) Transparent gas barrier packaging laminate according to claim 1 14, wherein the thickness of the intermediate polymer layer is from 50 to 60 μm [,] and the thickness of each of the first polymer carrier layer and the second polymer carrier layer is from 8 to 12 μm and ~~that the thickness of the outside layers of heat-sealable olefin polymer is from 10 to 25 μm and from 18 to 30 μm , respectively, and that the total thickness of the packaging laminate is from 110 to 140 μm .~~

17. (Currently Amended) Transparent gas barrier packaging laminate according to claim 1 8, wherein the intermediate polymer layer is laminated to the adjacent layers of SiO_x by means of a binder layer.

18. (Original) Transparent gas barrier packaging laminate according to claim 17, wherein the binder layer comprises a graft copolymer of alkoxy silane and polyethylene.

19. (Currently Amended) Packaging container manufactured from a packaging material comprising a packaging laminate according to claim 1.

20. (Currently Amended) Method of manufacturing of a packaging laminate, comprising the steps of:

advancing a first web comprising a first polymer carrier layer[,] coated with a first SiOx gas barrier layer[,] and a second web comprising a second polymer carrier layer[,] coated with a second SiOx gas barrier layer[,] towards each other and towards an a first extrusion station;

laminating the two first and second webs to each other by means of extruding an intermediate polymer layer, optionally together with a binder layer on each side of the intermediate polymer layer, between the two first and second webs and and pressing them together at the first extrusion station;

extruding a first outside layer comprising a heat-sealable polyolefin onto the an outside of the first or second polymer carrier layer at an a second extrusion station; and

extruding a second opposite outside layer comprising a heat-sealable polyolefin onto the an outside of the other of the second or first polymer carrier layer at an a third extrusion station.

21. (Currently Amended) Method according to claim 20, wherein the first and second webs ~~comprising a polymer carrier layer coated with SiOx gas barrier layers~~ are advanced towards each other such that the first and second SiOx gas barrier layers of the first and second webs are facing each other.

22. (Currently Amended) Method according to claim 20, wherein the first and second SiOx gas barrier layers ~~SiOx-layers~~ are treated by a surface activation treatment before laminating to the adjacent layers, ~~preferably corona treatment~~.

23. (Currently Amended) Method of manufacturing of a packaging laminate, comprising the steps of:

advancing a first web comprising a first polymer carrier layer coated with a first SiOx gas barrier layer and a second web comprising a second polymer carrier layer coated with a second SiOx gas barrier layer towards each other and towards an a first extrusion station;

laminating the two first and second webs to each other by means of extruding an intermediate polymer layer, optionally together with a binder layer on each side of the intermediate polymer layer, between the two first and second webs and pressing them together at the first extrusion station;

laminating by application of heat and pressure a premanufactured film comprising at least one layer of a heat-sealable polyolefin to the an outside of the first or second polymer carrier layer at a first hot roller nip; and

laminating by application of heat and pressure a premanufactured film comprising at least one layer of a heat-sealable polyolefin to the an outside of the other of the second or first polymer carrier layer at a second hot roller nip.

24. (Currently Amended) Method according to claim 23, wherein the first and second webs ~~comprising a polymer carrier layer coated with SiOx gas barrier layers~~ are advanced towards each other such that the first and second SiOx gas barrier layers of the first and second webs are facing each other.

25. (Currently Amended) Method according to claim 23, wherein the first and second SiOx gas barrier layers ~~SiOx-layers~~ are treated by a surface activation treatment before laminating to the adjacent layers, ~~preferably corona treatment~~.

26. (Currently Amended) Method of manufacturing of a packaging laminate, comprising the steps of:

advancing a first web comprising a first polymer carrier layer coated with a first SiOx gas barrier layer and a second web comprising a second polymer carrier layer[,] coated with a second SiOx gas barrier layer towards each other and towards a first hot roller nip;

laminating the two first and second webs to an intermediate ~~pre-manufactured~~ premanufactured web comprising an intermediate polymer layer and, optionally, a binder layer on each side of the intermediate polymer layer, which is advanced between the first and second webs, and applying heat and pressure in the first hot roller nip;

laminating by application of heat and pressure a first premanufactured film comprising at least one layer of a heat-sealable polyolefin to the an outside of the first or second polymer carrier layer at a second hot roller nip; and

laminating by application of heat and pressure a second premanufactured film comprising at least one layer of a heat-sealable polyolefin to the an outside of the other of the second or first polymer carrier layer at a third hot roller nip.

27. (Currently Amended) Method according to claim 26, wherein the first and second webs ~~comprising a polymer carrier layer coated with SiOx gas barrier layers~~ are advanced towards each other such that the first and second SiOx gas barrier layers of the first and second webs are facing each other.

28. (Currently Amended) Method according to claim 26, wherein the first and second SiO_x gas barrier layers SiO_x-layers are treated by a surface activation treatment before laminating to the adjacent layers, preferably corona treatment.

29. (New) Transparent gas barrier packaging laminate according to claim 2, wherein the thickness of the intermediate polymer layer constitutes from 35 to 50% of the total thickness of the packaging laminate.

30. (New) Transparent gas barrier packaging laminate according to claim 3, wherein the thickness of one of the first polymer carrier layer and the second polymer carrier layer constitutes from 5 to 15% of the total thickness of the packaging laminate.

31. (New) Transparent gas barrier packaging laminate according to claim 9, wherein the thickness is 80 to 300 Å.

32. (New) Transparent gas barrier packaging laminate according to claim 10, wherein the thickness of each of the first polymer carrier layer and the second polymer carrier layer is from 8 to 20 µm.

33. (New) Transparent gas barrier packaging laminate according to claim 32, wherein the thickness of each of the first polymer carrier layer and the second polymer carrier layer is from 8 to 15 µm.

34. (New) Transparent gas barrier packaging laminate according to claim 12, wherein the thickness of the intermediate polymer layer is from 40 to 60 µm

35. (New) Transparent gas barrier packaging laminate according to claim 34, wherein the thickness of the intermediate polymer layer is from 40 to 55 μm .

36. (New) Transparent gas barrier packaging laminate according to claim 13, wherein the total thickness of the packaging laminate is from 110 to 140 μm .

37. (New) Method according to claim 22, wherein the surface activation treatment includes a corona treatment.

38. (New) Method according to claim 25, wherein the surface activation treatment includes a corona treatment.

39. (New) Method according to claim 28, wherein the surface activation treatment includes a corona treatment.